



## REYNOLDS METALS COMPANY

Primary Metals Division  
5100 NE Sundial Road  
Troutdale, Oregon 97060-9499 • (503) 665-9171

March 28, 2005

Chip Humphrey  
Remedial Project Manager  
United States Environmental Protection Agency  
Oregon Operations Office  
811 S.W. 6<sup>th</sup> Avenue  
Portland, Oregon 97204

Subject: North Landfill Remedial Action Final Report

Dear Mr. Humphrey:

This letter constitutes the final report for the remedial action at the north landfill (NLF) area at the Reynolds Metals Company/Alcoa (RMC/Alcoa) facility in Troutdale, Oregon. The work was conducted in accordance with the U.S. Environmental Protection Agency's (EPA) *Unilateral Administrative Order for Remedial Design and Remedial Action* (2003); *Record of Decision for Interim Remedial Action* (2002); *Scope of Work for Remedial Action Reynolds Metals Superfund Site* (2003); and CH2M HILL's *Memorandum WP No. 56: North Landfill Remedial Action Work Plan* (June 2003). This remedial action included excavation of contaminated soil, confirmation sampling, offsite transport and disposal of the excavated material, installation of riprap cover, and site restoration activities. All remedial action activities were completed in 2003 except placement of topsoil and reseeded at the east NLF. This *NLF Remedial Action Final Report* documents topsoil placement and seeding activity performed in October 2004, to complete the approved remedial action. All other remedial action activities are documented in the *North Landfill Early Remedial Action* (CH2M HILL, April 2004) [Interim Report], including:

- Project background, including a description of the area, previous investigations, and cultural resources
- Remedial action activities, including site preparation, excavation, dust monitoring, offsite transportation and disposal, site restoration, modifications to the work plan, long-term monitoring requirements, and EPA oversight
- Sampling and analysis, including waste profile sampling and confirmation sampling;
- Costs through 2003
- Appendixes that include the historical analytical data summary, photo log of north landfill removal effort, dust monitoring results, daily truck logs, landfill weight tickets



Registered Firm  
ISO 9002:1994/Q9002-1994  
Certificate QSR-465

QS-9000:February 1995  
Certificate QSR-QS-010

PAGE 2  
MARCH 21, 2005  
166034.06.06.05

and waste manifests, waste profile sample analytical results, confirmation sample analytical results, data usability review, and risk estimate calculation spreadsheets

In 2003 approximately 9,754 tons of waste material was removed from the east NLF, hauled to Company Lake, and mixed with process residue prior to disposal at the Hillsboro Landfill. An additional 755 tons of material was hauled directly to the Hillsboro Landfill, for a total of approximately 10,509 tons of material removed. The mass of fluoride removed from east NLF was 46,335 kilograms (102,150 pounds). Following removal, the east NLF area was graded, erosion control matting was installed, and armoring stones were installed along the eastern edge of the outfall road. In October 2004, 4 to 6 inches of topsoil was placed at the east NLF and hydro seeded per specification.

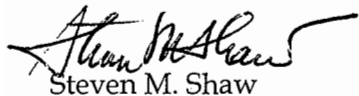
In 2003 at the west NLF area, surface brush was cleared and large debris was cleared and removed. The area was graded and covered with 6 inches of surface rock (riprap) and the perimeter sides sloped per specification.

EPA oversight activities were provided by Mr. Chip Humphrey, U.S. Environmental Protection Agency, Region 10, in 2003 and by Mr. John Howland from Parametrix in 2004. Site-specific cleanup goals were met and sampling results are documented in the Interim Report. Risk reductions following the removal actions at east NLF ranged from 94 to 96 percent.

Final costs for the remedial action at the NLF are included as Attachment 1. Included in the table are costs for CH2M HILL's engineering and oversight services, as well as transportation and disposal contractors' expenditures. Costs incurred by EPA and RMC/Alcoa are not included. Final certification documenting completion of the approved remedial actions for the NLF site is included as Attachment 2.

Sincerely,

Reynolds Metals Company



Steven M. Shaw  
Remediation Project Manager

Attachments x 2

# ATTACHMENT 1

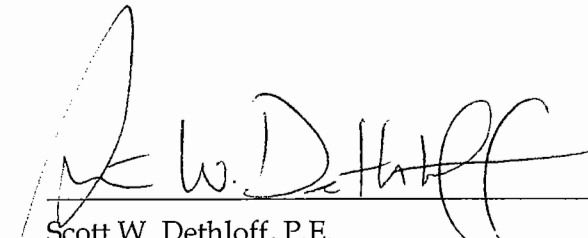
<b>TABLE 1</b> Summary of Costs for Remedial Action at North Landfill		
<b>Contractor</b>	<b>Description of Work</b>	<b>Cost</b>
CH2M HILL	Early action options analysis, preconstruction sampling, cost estimating, agency submittals, design, construction oversight, bid document preparation, laboratory coordination, confirmation sampling, and final reporting	\$55,277
BBLES	Excavation, transportation, and site restoration	\$280,106
Hillsboro Landfill	Disposal of material at Hillsboro Landfill	\$152,380
	<b>Total</b>	<b>\$487,763</b>

## ATTACHMENT 2

### Certification

---

Under penalty of law, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

  
\_\_\_\_\_  
Scott W. Dethloff, P.E.  
Oregon Professional Engineer 18336 PE  
CH2M HILL, Inc.

March 28, 2005  
Date

  
\_\_\_\_\_  
Steven M. Shaw  
Troutdale Superfund Project Coordinator  
Reynolds Metals Company/Alcoa

March 28, 2005  
Date